



Florida Department of Transportation Research

Energy Conservation Study, Madison and Polk County: 2010 Survey of Roadside Vegetation
PR4516611

Clear zones are the relatively flat, unobstructed rights-of-way located on the outside of undivided roadways and on the inside and outside of divided roadways. Clear zones provide a safe place for motorists to pull over and to regain control of their vehicle during an emergency.

Vegetation established in the clear zone is selected and managed to stabilize the soil and to reduce erosion potential. FDOT procedures require periodic mowing of the clear zone. Mowing reduces undesirable weed growth and encourages dense turf cover, which helps to stabilize the soil and reduce erosion potential.

In 2009, FDOT investigated the effects of reducing the frequency of clear zone mowing in an effort to reduce expenses and conserve energy. The research team selected a one-mile segment of I-10 in Madison as the test site. At this test site, only 10-foot safety strips adjacent to the inside and outside lanes of pavement were mowed regularly, and the remainder of the clear zones were mowed only once in the fall. Researchers also selected a second test site in Polk County; however, a modified mowing schedule for this site was abandoned five months into the project due to excessive weed growth.

After the fall 2009 mowing of the I-10 site, researchers observed no adverse impacts concerning erosion, safety, aesthetics, or turf quality. To determine longer term effects of the modified mowing schedule, the pilot study was extended through fall 2011. Researchers found that the modified schedule did not cause erosion in any of the inside or outside clear zones. Further, non-turf grass vegetation that became more prevalent and out-competed some traditional clear zone turf grass appeared to provide the same soil stabilization functions as traditional turf grass. Researchers also found that the modified mowing schedule enhanced the overall roadside aesthetics



Paspalum urvillei, a non-native perennial grass, grows in swales along I-10 in Madison County.

due to the increase in blooming native wildflowers, especially in the spring.

Researchers noted that three Maintenance Rating Program (MRP) criteria were not met due to the modified schedule. During the fall mowing of the clear zone, some tall vegetation was flattened by mowers and remained uncut. Trees outside the clear zones were not trimmed adequately in areas of tall unmowed vegetation. Also, litter was not removed sufficiently. In the future, to address these MRP issues within the clear zone, the research team recommended conducting an additional mowing cycle in June or July.

Despite the MRP issues, the researchers found that the modified mowing schedule conserved energy and saved over \$1,000 per mile per year without adversely affecting turf quality. Based on the findings in this study, researchers recommended that future sites for reduced mowing should not have a significant presence of MRP-listed undesirable species and should have a significant presence of showy, native herbaceous species.